Notice of Allowability	Application No.	Applicant(s)	
	10/551,285	QUENZER ET AL.	
	Examiner	Art Unit	
	KEITH T. AZIZ	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to _____.

2. ☒ The allowed claim(s) is/are *1-3, and claims 24-30*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 9/27/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *11/24/2009* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael Britton on 11/23/2009.

The application has been amended as follows:

1. (Currently Amended) A method for producing single microlenses or an array of microlenses composed of ~~a glass-type material~~ glass, the method comprising:

providing a first substrate with a surface containing impressions over which a second substrate composed of ~~a glass-type material~~ glass is placed at least partially overlapping it and is joined therewith under vacuum conditions, and

pempering the substrate composite in such a manner that the second substrate softens and flows into the impressions of the first substrate, thereby structuring the side of the second substrate facing away from the first substrate in order to form at least one microlens surface, wherein for forming ~~the at least one~~ each microlens surface, the softened ~~a glass-type material~~ glass of the second substrate flows into at least two impressions of the first substrate, the shape, size, and arrangements of the two impressions determining the curvature of the microlens surface.

2. A method according to claim 1, wherein a first substrate is provided containing a first impression into which said softened ~~a glass-type material~~ glass flows during the

tempering to form a concave surface contour at the microlens surface opposite the first substrate and wherein provided beside the first impression and separated by an intermediate fillet is a second impression into which an amount, which is determinable, of the softened ~~a glass-type material~~ glass flows determined by the shape, size and arrangement of the second impression to form a prescribed curvature of the microlens surface in at least a subdomain of the concave surface contour.

3. A method according to claim 1, wherein the first substrate contains at least two impressions separated by an intermediate fillet area over which a convex surface contour forms at the microlens surface opposite the first substrate due to the lateral flowing off of the softened glass into the at least two impressions during the tempering.

4.-23. (Cancelled)

24. A method according to claim 1, wherein a metal layer is placed between the first and the second substrate.

25. A method according to claim 1, wherein the structured surface of the first substrate is provided with impressions having structure widths B and the second substrate having a thickness D and wherein the following applies approximately: $B<0.5*D$.

26. A method according to claim 1, wherein the first substrate is a semiconductor substrate and/or wherein the ~~a glass-type material~~ glass is a borosilicate glass.

27. A method according to claim 1, wherein the first substrate is a semiconductor substrate and/or wherein the ~~a glass-type material~~ glass is a polymer-based plastic material.

28. A method according to claim 1, wherein joining of the first substrate with the second substrate composed of ~~a glass-type material~~ glass occurs by anodic bonding or by a gluing method.

29. A method according to claim 1, wherein the tempering is conducted by controlling the temperature and the duration to obtain a certain curvature of the forming microlens surface.

30. A method according to claim 1, wherein before the tempering, a third substrate is placed on the side of the second substrate facing away from said first substrate, and wherein the third substrate is provided with at least one impression or at least one opening having a delimiting contour, which delimits the peripheral contour of the forming microlens.

31.-32. (Cancelled)

2. The following is an examiner's statement of reasons for allowance: Claims are patentable over the prior art of record. While the utilization of substrates with impressions is known in the production of microlenses and microlens arrays, as taught by Quenzer, the prior art of record does not teach that *each* individual microlens surface flows into two or more impressions. The prior art of Quenzer shows that a surface may

flow into multiple impressions, but not that each surface that is generated flows into two or more impressions.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH T. AZIZ whose telephone number is (571)270-7658. The examiner can normally be reached on Monday through Thursday 8:00am-6:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katarzyna I. Wyrozebski can be reached on (571)272-1127. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KTA/

/KHANH NGUYEN/
Primary Examiner, Art Unit 1791